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1 Routine/Function Prologues

1.0.1 noah_singlegather.F90 (Source File: noah_singlegather.F90)

Gather single variable for output

REVISION HISTORY:

Apr 2003 ; Sujay Kumar, Initial Code

INTERFACE:

```
subroutine noah_singlegather(index, var)
%///////////////////////////////////////////////////
\mbox{}\\rulefill\\
```

```
\bigskip{\em USES:}
\begin{verbatim}    use lisdrv_module, only : lis
    use tile_spmdMod
    use noah_varder
    use noahpardef_module
    IMPLICIT NONE
```

ARGUMENTS:

```
integer :: index          ! Index of Noah variable
real    :: var(lis%d%glbnch) ! Noah variable being gathered
```

CONTENTS:

```
do t = 1, di_array(iam)
    select case (index)
    case(1)
        var_temp(t) = noah(t)%swnet/float(noah(t)%count)
    case(2)
        var_temp(t) = (-1)*noah(t)%lwnet/float(noah(t)%count)
    case(3)
        var_temp(t) = noah(t)%qle/float(noah(t)%count)
    case(4)
        var_temp(t) = noah(t)%qh/float(noah(t)%count)
    case(5)
        var_temp(t) = noah(t)%qg/float(noah(t)%count)
    case(6)
        var_temp(t) = noah(t)%snowf/float(noah(t)%count)
    case(7)
        var_temp(t) = noah(t)%rainf/float(noah(t)%count)
    case(8)
        var_temp(t) = noah(t)%evap/float(noah(t)%count)
```

```

case(9)
    var_temp(t) = noah(t)%qs/float(noah(t)%count)
case(10)
    var_temp(t) = noah(t)%qsb/float(noah(t)%count)
case(11)
    var_temp(t) = noah(t)%qsm/float(noah(t)%count)
case(12)
    var_temp(t) = noah(t)%smc(1)*1000.0*0.1+ &
                  noah(t)%smc(2)*1000.0*0.3 + &
                  noah(t)%smc(3)*1000.0*0.6 + &
                  noah(t)%smc(4)*1000.0 - noah(t)%soilm_prev
case(13)
    var_temp(t) = noah(t)%sneqv*1000.0-noah(t)%swe_prev
case(14)
    var_temp(t) = noah(t)%avgsurft
case(15)
    var_temp(t) = noah(t)%albedo
case(16)
    var_temp(t) = noah(t)%swe/float(noah(t)%count)
case(17)
    var_temp(t) = noah(t)%soilmoist1/float(noah(t)%count)
case(18)
    var_temp(t) = noah(t)%soilmoist2/float(noah(t)%count)
case(19)
    var_temp(t) = noah(t)%soilmoist3/float(noah(t)%count)
case(20)
    var_temp(t) = noah(t)%soilmoist4/float(noah(t)%count)
case(21)
    var_temp(t) = noah(t)%soilwet/float(noah(t)%count)
case(22)
    var_temp(t) = noah(t)%tveg/float(noah(t)%count)
case(23)
    var_temp(t) = noah(t)%esoil/float(noah(t)%count)
case(24)
    var_temp(t) = noah(t)%rootmoist/float(noah(t)%count)
case(25)
    if(lis%o%wfor.eq.1) then
        var_temp(t) = sqrt(noah(t)%forcing(5)*noah(t)%forcing(5)+ &
                          noah(t)%forcing(6)*noah(t)%forcing(6))
    endif
case(26)
    if(lis%o%wfor.eq.1) then
        if(noah(t)%forcing(1) < 273.15) then
            var_temp(t) = 0.0
        else
            var_temp(t) = noah(t)%forcing(8)
        endif
    endif

```

```
case(27)
  if(lis%o%wfor.eq.1) then
    if(noah(t)%forcing(1) < 273.15) then
      var_temp(t) = noah(t)%forcing(8)
    else
      var_temp(t) = 0.0
    endif
  endif
case(28)
  if(lis%o%wfor.eq.1) then
    var_temp(t) = noah(t)%forcing(1)
  endif
case(29)
  if(lis%o%wfor.eq.1) then
    var_temp(t) = noah(t)%forcing(2)
  endif
case(30)
  if(lis%o%wfor.eq.1) then
    var_temp(t) = noah(t)%forcing(7)
  endif
case(31)
  if(lis%o%wfor.eq.1) then
    var_temp(t) = noah(t)%forcing(3)
  endif
case(32)
  if(lis%o%wfor.eq.1) then
    var_temp(t) = noah(t)%forcing(4)
  endif
end select
enddo

call MPI_GATHERV(var_temp(1:di_array(iam)), &
  di_array(iam), &
  MPI_REAL,var,di_array,displs,MPI_REAL, &
  0,MPI_COMM_WORLD, ierr)
```